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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,064

05/19/2005

Daniel Baglione

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03/03/2009

ALSTOM POWER INC.

INTELLECTUAL PROPERTY LAW DEPT.

P.O. BOX 500

WINDSOR, CT 06095

EXAMINER

WILSON, GREGORY A

ART UNIT

PAPER NUMBER

3749

MAIL DATE

DELIVERY MODE

03/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,064	Applicant(s) BAGLIONE, DANIEL	
	Examiner Gregory A. Wilson	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 59-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *double wall (claim 61)* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 59, 60, 62-65, 72, 77-80 and 87 are rejected under 35 U.S.C. 102(e) as being anticipated by **Dietz (5,771,844)**. **Dietz** discloses a circulating fluidized bed reactor (14), a centrifugal separator (10) for separating particles from hot gases coming from the reaction chamber, wherein the reaction chamber and the centrifugal separator have a straight single common wall (Figure 3) therebetween (shown both as contiguous wall 14 and a common wall 15), an acceleration duct (12) disposed between the reaction chamber and the separator and is disposed entirely within the reaction chamber (SEE Figure 3) in the top portion of the reaction chamber, the acceleration duct has an inclined floor (12a), and an inlet curved inner wall (13) (ie: extrados) substantially parallel to the inlet mouth of the acceleration duct which aids in solids separation and reduces the inlet cyclone pressure drop.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Dietz (5,771,844)**. **Dietz** discloses the applicants primary inventive concept as stated above including the reaction chamber and the centrifugal separator having a common wall (Figure 3), however Dietz does not teach that the common wall is a double wall. It would have been an obvious matter of design choice to modify the common wall of Dietz to provide a double wall structure, since the applicant has not disclosed that having a double wall solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill. It appears that the claimed feature does not distinguish the invention over similar features in the prior art since, the common wall (single wall) of Dietz will perform the invention as claimed by the applicant.

Claims 66 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dietz (5,771,844)**. **Dietz** discloses the applicants primary inventive concept as stated above including an acceleration duct having an inlet mouth substantially parallel to the extrados of the duct, however, Dietz does not specifically teach an alternate

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embodiment of the inlet mouth being perpendicular to the extrados of the duct. It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the acceleration duct with an inlet mouth substantially perpendicular to the extrados of the duct since such a modification is regarded as an obvious matter of design choice and within the level of ordinary skill in the art and the applicant has not disclosed that having the inlet mouth of the acceleration duct substantially perpendicular to the extrados of the acceleration duct solves any stated problem or is for any particular purpose unobvious to one of ordinary skill in the art.

Claims 67-70, 73-75, 82-85, and 88-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baglione et al (6,779,492) in view of Dietz (5,771,844).

Baglione et al discloses a circulating fluidized bed reactor (10) having a reaction chamber (12) connected by an acceleration duct (24) to a centrifugal separator (14) for separating particles from hot gases coming from the reaction chamber, a horizontal rear cage (16) that is situated under the centrifugal separator (SEE element 16C), the centrifugal separator has vertical walls in transversal section, the centrifugal separator and the rear cage have a common wall (as shown in Figure 2, element 25B, column 6, lines 63-64), alternatively, the reaction chamber and the rear cage have a common wall (SEE Figure 3, element 12C, column 17, lines 6-9). With regard to claims 69 and 84, the reaction chamber and the centrifugal separator have aligned exterior walls (12C & 25A). With regard to claims 70 and 85, Figure 3 show the reaction chamber, the centrifugal separator and the rear cage disposed at right angles. Baglione et al does

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not particularly recite that the acceleration duct is arranged in the reaction chamber, however, the applicant has only disclosed that placing the acceleration duct in the reaction chamber allows centrifugal horizontal flow of the flue gases at the top of the chamber, which changes the speed of the particles and reduces the distance between the reaction chamber and the separator while also allowing the tubes of the reaction chamber to be used as walls of the ducts, these are limitations which are known in the art as discussed in column 4 of Dietz. Dietz also discloses a circulating fluidized bed including delivering a mixture of gas and particles into a separator (10) and teaches that an acceleration duct (12) which has a common wall with the reaction chamber, extends into the reaction chamber (14) (column 3, lines 39-44) in the same manner as that disclosed by the applicants invention. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the acceleration duct of Baglione et al to extend into the reaction chamber as taught by Dietz for the purpose of increasing the speed of the gas and particle mixture as it is fed into the cyclone separator to better aid in the separation performance of the separator additionally, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

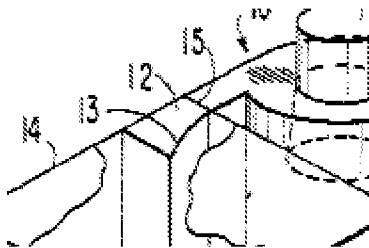
Claims 71, 86 and 91-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dietz (5,771,844) in view of Baglione et al (6,938,780)**. Dietz discloses the applicants primary inventive concept, as stated above, including a circulating fluidized bed reactor with an acceleration duct connecting a reaction chamber with a centrifugal separator, the acceleration duct being disposed within the reaction chamber, however, Dietz does not specifically teach a deflector disposed in the reaction chamber. Baglione et al teaches that it is common knowledge to include a deflection wall member (deflector) (24) within the reaction chamber of a circulating fluidized bed reactor with an acceleration duct connecting a reaction chamber with a centrifugal separator wherein a deflector (24) is formed in the reaction chamber that directs particles to the acceleration duct. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the reaction chamber of Dietz to include a deflector as taught by Baglione et al for the purpose of directing circulating particles toward the acceleration duct as is well known in the art.

Response to Arguments

The Examiner hereby acknowledges the applicants amendment to claims 75 and 90 by the removal of the limitation of "a secondary separator is disposed between the centrifugal separator and a rear cage". Applicant has supplied a "replacement sheet" of Figure 2 to include the claimed feature (double wall) as claimed in claim 61, however, upon further inspection, the Figure 2 of the "replacement sheet" is identical to Figure 2

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of the drawings filed 4/12/05, thus the "replacement sheet" filed 11/24/08 have not been approved by the Examiner. The Examiner is not able to identify the amendment to the drawings of a showing of a "double wall" and thus the objection to the drawings are maintained. Applicant's arguments filed 11/24/08 with respect to the 35 U.S.C. 102 (e) rejection of Dietz have been fully considered but they are not persuasive. Applicant has amended the claims to now recite that the reaction chamber and the centrifugal separator have a common wall "therebetween", the term "therebetween" is being interpreted by the examiner as meaning "in common". Dietz discloses in Figure 3, a reactor furnace (14) having a common wall which extends from the reactor to the separator (10). There is no clear element number to identify the wall, but as shown in the illustration below, the element number (14) refers to the surface that the examiner regards as being part of the common wall. In addition rear wall (15) also represents a common wall between the reaction chamber and the centrifugal separator.



The Examiner respectfully asserts that Dietz anticipates the applicants limitation of a common wall "therebetween" as newly amended.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

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references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner respectfully disagrees and directs applicants attention to column 8, lines 23-27 wherein a deflection wall member (24) is capable of directing a flow of gases and material into the separator. One of the purposes of using the deflection wall is to aid the flow and to take up the required curvature for passage without any significant counter-flow such as turbulence being generated in the corner where the deflector is placed. A person having ordinary skill in the art would have found it obvious to incorporate such a deflector in Dietz which inherently and structurally encounter turbulence in the corner of the walls of the furnace, and achieve the predictable result as taught by Baglione et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory A. Wilson/
Primary Examiner, Art Unit 3749
February 10, 2009